

Open Research Online

The Open University's repository of research publications and other research outputs

Academic Conferences as Learning Sites: A Multinational Comparison of Doctoral Students' Perspectives and Institutional Policy

Journal Item

How to cite:

Omolabake, Fakunle; Dollinger, Mollie; Alla-Mensah, Joyceline and Izard, Blair (2019). Academic Conferences as Learning Sites: A Multinational Comparison of Doctoral Students' Perspectives and Institutional Policy. *International Journal of Doctoral Studies*, 14 pp. 479–497.

For guidance on citations see [FAQs](#).

© [not recorded]



<https://creativecommons.org/licenses/by-nc/4.0/>

Version: Version of Record

Link(s) to article on publisher's website:
<http://dx.doi.org/doi:10.28945/4383>

Copyright and Moral Rights for the articles on this site are retained by the individual authors and/or other copyright owners. For more information on Open Research Online's data [policy](#) on reuse of materials please consult the policies page.

oro.open.ac.uk



ACADEMIC CONFERENCES AS LEARNING SITES: A MULTINATIONAL COMPARISON OF DOCTORAL STUDENTS' PERSPECTIVES AND INSTITUTIONAL POLICY

Omolabake Fakunle*	University of Edinburgh, Edinburgh, United Kingdom	omolabake.fakunle@ed.ac.uk
Mollie Dollinger	La Trobe University, Melbourne, Australia	m.dollinger@latrobe.edu.au
Joyceline Alla-Mensah	University of Nottingham, Nottingham, United Kingdom	joyceline.alla-mensah@nottingham.ac.uk
Blair Izard	University of Connecticut, Storrs, United States	blair.izard@uconn.edu

*Corresponding author

ABSTRACT

Aim/Purpose	The aim of this paper is to explore trends and motivations for doctoral students' participation in domestic and international conferences. We draw on doctoral students' perceptions and experiences from four contexts (USA, Scotland, England, Australia) to further explore variations across different global contexts.
Background	There is increased recognition of the importance of conferences within doctoral education. Yet very little is known or understood about doctoral students' participation and motivations for participating in conferences.
Methodology	Our sample includes doctoral students from four institutions studying in a School of Education. We used an online survey and follow-up focus group interviews to investigate doctoral students' perceptions and experiences of conferences.
Contribution	There are few studies on doctoral students' participation in conferences. This study contributes to the literature on doctoral students as it investigates the trends and rationale for doctoral students' participation in national and international conferences. We highlight the importance of conferences as learning sites for doctoral students. Furthermore, our research highlights dissimilarities and ambiguities in the provision of support for doctoral students' regarding what we describe as the social aspect of their researcher learning and development, in this

Accepting Editor Norma J. Turner | Received: March 9, 2019 | Revised: May 20, 2019 | Accepted: June 20, 2019.

Cite as: Fakunle, O., Dollinger, M., Alla-Mensah, J., & Izard, B. (2019). Academic conferences as learning sites: A multinational comparison of doctoral students' perspectives and institutional policy. *International Journal of Doctoral Studies*, 14, 479-497. <https://doi.org/10.28945/4383>

(CC BY-NC 4.0) This article is licensed to you under a [Creative Commons Attribution-NonCommercial 4.0 International License](https://creativecommons.org/licenses/by-nc/4.0/). When you copy and redistribute this paper in full or in part, you need to provide proper attribution to it to ensure that others can later locate this work (and to ensure that others do not accuse you of plagiarism). You may (and we encourage you to) adapt, remix, transform, and build upon the material for any non-commercial purposes. This license does not permit you to use this material for commercial purposes.

	case, in networking activities.
Findings	Our findings show that a) at both the individual (doctoral students) and institutional level, there is an implicit understanding of the importance of networking and yet programs rarely formally require conference attendance; b) students' motivations to attend conferences may be mediated by their career aspirations and supportive structures (i.e., funding); and c) conferences support doctoral students' learning and confidence in future networking.
Recommendations for Practitioners	Our recommendations to doctoral education training programs and/or supervisors are to explicitly discuss and promote networking and/or conference attendance, and to find ways to support students to engage in networking outside their immediate study environment.
Recommendations for Researchers	Our recommendation to researchers is to further investigate the importance of networking behaviors and experiences on doctoral student training and/or career outcomes.
Impact on Society	This research highlights the importance of recognizing the learning needs of doctoral students who are expected to work in a complex, globally connected society as part of the reality of higher education in the 21st century.
Future Research	Results from the study could help inform a larger study on the trends and motivations of doctoral students' networking across all disciplines.
Keywords	doctoral education, doctoral/PhD students, networking, academic conference, academic workforce

INTRODUCTION

The roles and responsibilities of an academic are complex. The academic workforce is expected to operate outside of its conventional silos (e.g. departments, research centers) by collaborating cross-institutionally, and internationally (Hugo, 2005a; McAlpine, 2012; Walker, 2015; Willis & Strivens, 2015). These efforts are often supported through university travel schemes/systems to attend domestic and international conferences, international collaborations towards or for grant applications and joint research projects, and short to long-term job postings at foreign institutions (Higher Education Funding Council for England [HEFCE], 2010; Hugo, 2005b; Wakefield & Dismore, 2015). Critical across all these activities is the ability of the academic to effectively interact and work with others.

Networking has long been a key component underpinning the interconnected context of academia. Recently, conceptions of doctoral students' professional development and academic identity maintain that networking is important alongside traditional academic roles such as researching, teaching, and writing (Blaxter, Hughes, & Tight, 1998; McAlpine, 2012). To this end, networking is considered (i) a key aspect of the doctoral student experience (McAlpine, 2012), and (ii) important for "the development and use of personal and professional contacts (academics and non-academics), with a view to maintaining and furthering academic careers and projects...within, between or outside departments and institutions" (Blaxter et al., 1998, p. 285). However, the networking behaviors and support structures for doctoral students remain an under researched area (Goel & Grimpe, 2013; Wakefield & Dismore, 2015). This is surprising considering there is evidence that doctoral students recognize the importance of developing relationships and networks, in addition to their studies. National surveys such as the Postgraduate Research Experience Survey (PRES) in the UK, collects data on postgraduate research students' learning and supervision experience. In 2017, 57,689 respondents from 117 institutions took part in PRES. The findings show that, as in previous years, the lowest scored item remains: "I have opportunities to become involved in the wider research community, beyond my department" (Slight, 2017, p. 4). This suggests there is a need to address doctoral students' dissatisfaction with networking opportunities limited to their department. Furthermore, scholars have argued

that doctoral students need support to develop their scholarly identity through access to both traditional and non-traditional sites of learning (Barnacle & Mewburn, 2010). Networking at academic conferences provides opportunities for learning, collaboration, and support from/with colleagues and mentors (Carroll et al., 2010). It is our view, therefore, that a conference is an example of a non-traditional site (i.e., outside a formal classroom/ explicit curriculum) where doctoral students can interact, learn, and network with the wider global research community.

There has been increasing interest in opportunities that conferences provide for participants to network and learn. In the area of learning, some studies have examined the extent to which conferences provide suitable environments for learning (Burford, Henderson, & Pause, 2018; Henderson, 2015). Others have focused on processes through which participants learn by engaging with conference contents (Andersen & Wahlgren, 2015; Haley, Wiessner & Robinson, 2009; Hatcher, Aalsburg Wiessner, Storberg-Walker, & Chapman, 2006; Kordts-Freudinger, Al-Kabbani & Schaper, 2017). Except for Chapman et al (2009) and Ghosh and Githen, (2009) who focused on doctoral students' experiences at conferences, the studies cited above have focused on diverse participants.

Empirical studies on the experiences of doctoral students and how they are supported to participate in conferences is under-researched. The research presented in this paper contributes to addressing this gap in the literature and scholarship on learning at conferences. This is done by exploring doctoral students' motivations for participating in conferences through analysis of quantitative data and qualitative open-ended responses from a range of doctoral participants. From doctoral students' descriptions and the researchers' own literature review, we define networking in our research as an event or opportunity to meet scholars in their field with a potential for knowledge sharing, research collaboration, and/or future employment opportunities. Our definition recognizes that networking could be targeted (i.e., a planned event or meeting) or serendipitous (in spatial spaces) in as much as there is an intrinsic and/or extrinsic associated benefit. In addition, our study draws on insights from sociocultural theories, which posit learning at conferences as a social process (e.g., Wenger, 2000). At conferences, learning is facilitated through social interactions with peers and experts. Viewing learning from a socio-cultural perspective, we take it that learning and knowledge are constructed by doctoral students through their conference attendance, observation of other scholar's presentations, presentations of their own work and receiving feedback, and socially engaging with others through networking. Together, these experiences enable doctoral students to develop their academic skills and engagement with a range of audiences, within and beyond their immediate study environment.

The empirical evidence presented in this paper arises from a multi-national comparative study (USA, Scotland, England, and Australia) exploring doctoral students' participation and networking at conferences in relation to their development as researchers and career aspirations. The findings contribute to a greater understanding of doctoral education in the 21st century, where traditional academic learning in institutions and international networking are expected to 'cohabit' as key aspects of research, teaching, and learning excellence. The following sections of the paper include discussion of the context and methodology utilized in this study. We will then present the main findings and conclude with a summary of our contribution to literature.

CONTEXT OF THE STUDY

In this section, we describe the structure of the education doctorate in four countries where the institutions for our study are located. We also discuss funding opportunities for doctoral students' participation in conferences.

A comparison of our four countries shows differences in the structure of the doctorate in education and support for doctoral students' participation in conferences. Schools of Education in all four countries offer Professional Doctorate (EdD) and Doctor of Philosophy (PhD) degrees. However, there are variations of these degrees across countries. For example, some Higher Education Institutions in England offer an integrated subject specialist doctorate that is usually funded by research

councils and leads to the award of PhD (Quality Assurance Agency for Higher Education [QAA], 2015). The integrated subject specialist is usually four years in duration and follows a structure where students are made to undertake taught modules in their first year of study. Progression from the first year of an integrated PhD depends upon satisfactory results in the taught modules (QAA, 2015). Except for the USA, PhD and EdD programs are three years for full-time study, with a writing-up period allowed usually in the fourth year, and between five to six years for part-time. In the USA, doctoral education may take between six to ten years (depending on international student status and discipline), with the initial three years being dedicated to formative, assessed course-work and examinations (National Science Foundation, 2017; Nerad, 2007). In England, Scotland, and Australia, the first year of study for full-time doctoral students is considered probationary and confirmation of PhD or EdD status or progression from first to second year depends on successful completion, submission, and oral defence of a first-year report. Across all four countries, more students in education pursue a PhD rather than the professional doctorate degree (Powell & Green, 2007). The two forms of doctorate culminate in a research project submitted at the end of the program.

Across the US, the UK, and Australia, funding arrangements (for tuition, living costs, research expenses, and conferences) differ. Students are charged for tuition in all four countries except when these students are scholarships recipients of states, higher education institutions, research councils, and other external bodies. In relation to funding opportunities available for students' participation in conferences, funding for conferences for students on the integrated subject specialist doctorates in England is provided by their funders, usually research councils. Students on such a program are also entitled to funding from the School of Education. At the time of conducting our research in 2018, in Institution 4, each student regardless of the doctoral program and funder(s) is entitled to a maximum of USD \$524 for presenting in a conference and USD\$196 for attending a conference in an academic year. Also, students in Institution 3 could receive up to USD\$750 in an academic year. Unlike the other three institutions, the School of Education in Institution 1 set aside about USD\$655 for each student's participation in conferences for the entire duration of their doctorate (amount across the four institutions converted to USD\$ for uniformity and anonymity). These funds can only be accessed after they have passed their first-year annual review. PhD students in the fourth year forfeit any unused funds. In Institution 3, first year PhD students cannot use funding before their confirmation (similar to the first-year annual review), typically occurring at the end of their first year of study. In addition, in institutions 2 and 3 the funding amount for each student varies in their specific area of study, the department they are in (sometimes departments may have extra funds for students), and what funding schemes are available at that time. So, in Institutions 2 and 3, there are no systematic institutional support in place that guarantees conference funding for students each year. Students can either receive funding from their advisors (supervisors), a grant they are working on, a scholarship they receive, or potentially their department.

Aside from funding, supervisors play an important role in supporting doctoral students' participation in conferences. Their support can be in the form of reviewing students' abstracts and presentations, sitting in their conference presentation, and connecting them to relevant people in their field. Across all four institutions, it was realized that this form of support depends highly on one's supervisor or supervisory team. As a result, there were huge variations in what students received even in the same institution.

METHODOLOGY

We explored trends in doctoral/PhD students' participation in conferences. As evident in our first research question below, we sought to understand at what stage during their study did doctoral students engage in domestic and/or international conferences. Our second research question further explored doctoral students' motivations for participating in domestic and/or international conferences (see below).

RQ1. What are the trends in doctoral students' participation in domestic (i.e., national) and international conferences?

RQ2. What are doctoral students' motivations for participating in domestic (i.e., national) and international conferences?

To examine these questions, we adopted a mixed method sequential explanatory design (Ivankova, Creswell, & Stick, 2006), where we first collected quantitative data and then qualitative data in two consecutive stages within the single study. The analysis of the data collected in the first phase informed the issues we explored in-depth in the second stage of the study. We used survey questionnaires (phase 1) and focus group interviews (phase 2). As a cross-national study, ethics approval was obtained from all four participating institutions. Both phases of the research design described below apply to each university. Our sample included current doctoral students in the schools of education of the four participating research-intensive institutions.

PHASE 1

The first phase of the project involved the design of an online survey comprising of Likert-scale and open-ended questions using Qualtrics survey software. The survey questionnaire went through two rounds of piloting. First, using cognitive interviews (e.g., Karpen & Hagemeyer, 2017) we found that many survey questions were consistently interpreted by doctoral student respondents ($n=6$) across all four institutions selected from the target population. Minor edits were made to ensure consistency of question interpretation and to improve question clarity. Second, initial survey piloting ($n=14$) at all four institutions ensured that survey items aligned with our research questions and allowed for useful variation of results to analyze findings. When the research team was confident that the pilot interpretation and responses addressed our research aims, the finalized online survey was distributed to all doctoral students in the four Schools of Education through each institution's nominated survey contact (e.g., Graduate School Administrators). The survey was completed between 12 February 2018 to 9 March 2018. Altogether, there were 214 responses with 187 completed surveys from the four institutions (please note, total number of participants varied between institutions).

Cross-tabulation of the survey data revealed commonalities and differences in trends in doctoral students' participation and motivations for attending conferences and engaging in networking events at conferences, within and across institutions. The survey findings underpinned the design of the second phase of the study in terms of selection study participants and the preparation of the interview guide used for focus group interview at each institution between April and May 2018.

PHASE 2

In second phase of the study we used semi-structured interviews to probe participants' motivations for attending conferences and engagement in conference networking. All survey participants in phase one were invited to participate in follow-up focus groups. Approximately 60 survey participants self-selected to participate in the focus group interviews. A total of 23 doctoral students were selected to participate in the four focus group interviews, one at each institution. The participants represented a broad range of demographics in terms of gender, age, year of study (less than one year to 3-4 years), and student status (domestic or international student) and study status (full-time or part-time) (see Table 1). We also asked for the doctoral students' area of research disciplines with the highest percentage from five disciplines: Educational leadership and policy; Equity, social justice and inclusion; Curriculum and instruction; Higher education adult and vocational education; and Digital education and educational technology. The diverse background of participants provided rich data with regards to their perspectives on their conference experiences. The interviews were approximately 60 to 70 minutes in length and were audio recorded and fully transcribed for later thematic analysis using NVivo. The themes and categories arising from the thematic analysis (Braun & Clarke, 2006) in-

formed our exploration of doctoral students' rationales for participating in conferences and related conference attendance influence/impact on researcher development and career progression.

In the following section, we discuss the findings of both phases of research. We have organized our findings to correspond with our research questions including the trends in doctoral students' participation in conferences and their motivations for participating in conferences. Other themes that emerged from the data such as doctoral students' perspectives on support available for their conference participation will be discussed. To support these findings, we will also preface our discussion with an overview of our research participants.

PROFILE OF SURVEY PARTICIPANTS

Survey participants (n=187) from the various Schools of Education varied in age and length of PhD study. However, consistent across all institutions was a larger percentage of female participants (76%) and domestic students (68%). The profile of participants also reflects the current visa policies in some countries, as in both the United States and Australia international students cannot be part-time; therefore, there were no part-time international students from these countries. See Table 1 for a full overview of the profile of survey participants across the four institutions.

Table 1. Profile of survey participants across four institutions

Institution	Percentage
1	30%
2	27%
3	26%
4	17%
Gender	
Male	23%
Female	76%
Prefer not to say	1%
Age range	
21-25	5%
26-30	27%
31-35	25%
36-40	14%
40+	29%
Student status & study status	
Full-time domestic student	42%
Full-time international student	30%
Part-time domestic student	26%
Part-time international student	2%
Length of PhD study at institution	
Less than 1 year	20%

Between 1-2 years	21%
Between 2-3 years	15%
Between 3-4 years	23%
More than 4 years	22%

PROFILE OF FOCUS GROUP PARTICIPANTS

A total of 23 doctoral students were selected to participate in the focus group (between 4 and 7 participants at each institution). The participants reflected the widest range of diversity, including specific major/area of study, age, gender, and length of doctoral program enrolment. See Table 2 for a full overview.

Table 2. Profile of focus group participants across four institutions

Institution	Gender		Ethnicity	PhD Student Status	Length of PhD study	Total
	Female	Male				
1	4	3	Latin America (1)	FT- Int (3)	Under 1 year (1)	7
			Asian (1)	FT Dom (3)	1-2 years (2)	
			Arab (1)	PT Dom (1)	3-4 years (4)	
			White (4)			
2	1	4	White (3)	FT Dom (4)	1-2 years (4)	5
			Asian (1)	FT Int (1)	2-3 years (1)	
			Black, Latin American (1)			
3	2	2	White (3)	FT- Int (3)	Under 1 year (1)	4
			Asian (1)	FT Dom (1)	1-2 years (1)	
					3-4 years (2)	
4	6	1	Asian (1)	FT- Int (4)	Under 1 year (2)	7
			Arab (3)	FT Dom (3)	1-2 years (2)	
			Black, African (1)		3-4 years (3)	
			White (1)			
			Latin America (1)			
Total	13	10				23

FT (Full-time), PT (Part-time), Int (International), Dom (Domestic)

The diversity of students in Table 2 shows that we strove to include a range of stories and personal experiences towards networking and conference attendance in doctoral programs. In the next section, we will further discuss our findings in both the survey and the focus group interviews to highlight the trends in doctoral student participation in conferences that our study has uncovered.

FINDINGS AND DISCUSSION

Our findings indicate three overarching themes in doctoral education across all four institutions in three global contexts. These include a) variations in conference attendance over the duration of the PhD, b) doctoral students' rationales for attending conferences, and c) how networking is embedded within the doctorate in an education program. In this next section, we analyze the findings of each theme.

CONFERENCE ATTENDANCE OVER DURATION OF THE PHD

The results of our study show that doctoral students' participation at domestic conferences was relatively higher in their first and second years of study than subsequent years (see Table 3). Important to note here is that most full-time doctoral programs in the UK and Australia are three years in length, while the USA has a four-year program design. The fifth year therefore was rarer and included students who were either part-time students or had not completed on time. Unsurprisingly, the majority of the participants had attended a domestic (86%) (see Table 3) or international conference (80%) (see Table 4) within three years of their doctoral study.

Our results also indicated that domestic conferences had higher overall participation than international conferences (survey respondents had participated in a total of 593 domestic conferences compared to the same cohort having attended 151 international conferences) (Tables 3 & 4).

Table 3. Domestic conference attendance by year of study

1 st year	2 nd year	3 rd year	4 th year	5 th year	Total
198	175	132	56	32	593
33%	30%	22%	9%	5%	100%

Note— domestic conferences are held in the country where a student is currently studying

Table 4. International conference attendance by year of study

1 st year	2 nd year	3 rd year	4 th year	5 th year	Total
32	58	31	19	11	151
21%	38%	21%	13%	7%	100%

Note— international conferences are held in a country outside where a student is currently studying

The quantitative data indicated that the top four factors that affected participation in both domestic and international conferences were financial constraints, time constraints, travel distance to international conferences, and family responsibility. These findings were corroborated during the focus group.

At the same time, nuances from the qualitative data collected during the focus group interview provided further insight into the trends uncovered from our analysis of the survey data. These findings suggest that many doctoral students attended domestic conferences in the first year as a sort of 'exploratory' exercise to learn 'how others present at conferences' and about emerging research in their field, beyond their institution. For example, one student noted, "I found it very helpful at the beginning to get a feel for conferences and learn about the cutting-edge research that is coming out. It takes so long to be published in journals" (Doctoral student Institution 1). Another student, who was from a non-native English speaking background, found first year attendance in conferences helped her understand expectations of academic presentations and supported English language learning as she noted, "in the first year I would love to enjoy as many conferences as I can, because I really need to tune my English because listening is completely different from what they speak in the Hollywood movies.... I always got inspirations from other people's speech or presentation, that is another reason" (Doctoral student Institution 1). Ironically, the quotes from the students seem far removed from the policy at institutions 1 and 3, as earlier mentioned first year doctoral students cannot access funding for conference attendance. This suggests that institutional policy could be in direct contrast

to students' expectation in terms of the timing of attending conferences at the early stage of their candidature. The constraints on the students' finances, time, travel distance, and family responsibilities meant that the majority of students were interested in conducting these initial exploratory activities at domestic conferences. This perhaps explains why a third of participants attended domestic conferences in the first year of their PhD (Table 3).

Further, as shown in Table 4, the second year of study was the most popular time for PhD students to attend international conferences. This coincides with the year (first period during the PhD when this is a possibility in institutions 1 and 3) during the PhD when all students can access funding for attending conferences. This also accords with students' accounts regarding their interest to first explore domestic conferences. For the students, three main factors seemed to affect conference attendance in the second year and beyond. The first relates to what the students described as their sense of readiness to "move from the observing to presenting phase." The second factor relates to students' perception that they have something valuable to present and their participation could help towards enhancing the quality of their work, as captured in the quote below:

I think it might be early still at that point [up to one year of starting the PhD] to be presenting anything that feels valuable, but I think also at that period of time you can feel quite like you're just sort of running your wheels while you're writing and thinking and planning. And so, in this case [from year 2] actually being able to present something can help actually to improve your feeling of usefulness and getting out there and participating as well. (Doctoral student, Institution 3)

The third factor is also implied in the quote above. This suggests a need for affirmation of their work, which some students said they were hopeful could be developed into a publication. This could be seen as the students' socialization into the academic world. Unsurprisingly, cumulatively, the second year is also when most students attended domestic and international conferences ($n=233$). Students' attendance at conferences was high also in the third year, for similar reasons related to second year attendance. There was relatively less attendance at conferences in the fourth and fifth year. The findings suggest that at this stage many students seemed to want to focus on finishing their PhD. Additionally, a few students said they had 'run out of money' to attend conferences. This is unsurprising as student funding is usually limited to within the prescribed period of the PhD.

The findings suggest that doctoral students seem to have clear perceptions of the value of attending conferences at different stages of their study, and this impacted their conference attendance. However, it was not clear whether the students' perceptions of the benefits of attending conferences at different stages of their study is accounted for in PhD program design. Additionally, in view of the value of conferences as places of sharing excellent research, which is an important aspect of academic life, it is yet unclear the extent to which conferences could strategically be positioned as important learning spaces as part of the socialization process at different stages of doctoral study.

DOCTORAL STUDENTS' RATIONALES FOR ATTENDING CONFERENCES

Our second research question examined doctoral students' motivations for attending conferences. To elicit responses, we first asked participants through the online survey (phase 1) to rate a variety of motivations for attending conferences as highly important, somewhat important, neither important nor unimportant, and not important. As seen in Table 5, the findings show what could be described as a clear pattern in doctoral students' motivations for conference networking. This showed that the highest ranked motivations for conference attendance are related to research development (learning from others and sharing research to get feedback). Employment related opportunities were also highly rated. The findings show overall low ranking of collaboration with the third sector and industry. Perhaps, this reflects the selection of PhD students in research intensive universities and the exclusion from our sample students pursuing a professional doctorate degree (EdD). Personal reasons were

the least important reasons for attending conferences. These included visiting friends and family and sightseeing and tourist attractions (Table 5).

Table 5. Doctoral students' motivations for attending conferences

	Not Important	Neither important nor unimportant	Somewhat Important	Important
Networking with academics	1%	4%	41%	54%
Ideas for new areas of research	3%	10%	39%	49%
New academic research collaborations	4%	12%	38%	47%
Employment opportunities	10%	15%	33%	42%
Guidance on your doctoral project from other academics	8%	18%	36%	39%
Feedback on presentation style (e.g. speaking, poster display)	7%	18%	42%	34%
Networking with other doctoral students	8%	11%	51%	30%
Networking with government, industry, third sector, NGOs	18%	21%	39%	22%
Research collaboration with industry	17%	29%	36%	18%
Visiting friends/family	48%	29%	16%	7%
Sightseeing and tourist attractions	41%	32%	19%	7%

The findings related to the highly ranked motivations for conference attendance are now discussed further. Amongst the options given, the highest rated motivations for conference networking relate to their doctoral research. These include: networking with academics (rated as highly important by 54% and somewhat important by 41%). This means that most participants perceived networking with academics as an important rationale for attending conferences. Similarly, this was followed by the need to obtain 'ideas for new areas of research'. This motivation chimes with the reason given for the higher interest in attending conferences in the first year of study – to learn about new developments in the field. This could help doctoral students shape the development of their research, including narrowing the scope of their work meaningfully as they seek to contribute to knowledge. Crucially, there is nothing in our findings that suggest that learning at conferences ends at this earlier stage of the PhD. In contrast, as will be discussed later, the findings reveal doctoral students' perceptions of the connectedness of different stages of learning and how this relates to their conference attendance.

Additionally, the third highest ranked item revealed participants' perceived opportunity to make new academic research collaborations as a rationale for attending conferences (47% of participants said it was important, while 38% said it was somewhat important). Also, in direct relation to their research, the findings show that doctoral students valued 'feedback on their presentation style', with over a

third (34%) ranking this factor as highly important (an additional 42% denoted this as somewhat important).

Interestingly, 30% of the participants indicated that networking with doctoral students is highly important (and 42% rated this as somewhat important). We believe this finding has important implication for planning emerging career researcher (ECR) conferences, which are normally directed at doctoral students and newer researchers at the early stages after earning their doctorate. It is unclear if such ECR conferences are designed to attract more experienced academics. Yet, our findings suggest that doctoral students are highly motivated to network more with experienced academics they could learn from and who they would like feedback from at conferences. This suggests that there is a need to assess the extent to which doctoral students' motivation to attend conferences cohere with current design of ECR conferences.

Notwithstanding, ECR conferences provide important learning and sharing spaces for doctoral students to engage with their peers and other researchers from different contexts. ECR conferences also provide a space for potential future collaboration. In fact, during the focus group interview at Institution 1, one student stated that his PhD is giving him the opportunity to identify peers he would like to work with in the future. However, anecdotal evidence suggests that ECR conferences are separate from main conferences (and held before the main conference). Perhaps ECR conferences could be better integrated into the main conference to increase the potential for doctoral students' learning and sharing networking opportunities at conferences.

A high percentage of doctoral students also indicated that conference networking is significant for employment opportunities (42% rated this as highly important and 33% rated this as somewhat important). As the precariousness of working in academia has attracted a lot of attention in recent discourses, it is not surprising that doctoral students consider future potential work opportunities by networking at conferences. However, it was not clear why employment opportunities were ranked as not important by a tenth of the survey participants (with a further 15% citing that it was neither important nor unimportant). To this end the focus group data provided further insight into the doctoral students' perspectives on the importance of conference networking for employment opportunities. For example, in response to a question related to their perceptions of networking for career advancement, a student said:

No, I don't think that is true. Unless you are researching something very, very specific and there is only you. I don't think so. Just by people just looking at your CV. I think because of the competition and how many people are competing for one specific role. (Doctoral student, Institution 4)

In contrast to the skepticism in the quote above, across the four institutions, majority of participants reiterated the benefit of conference networking for career advancement:

Yeah recently I was on a receiving end where you go on a conference, and you see all these...little by little people asking you about a position or something, and then you realize, oh wait, they are hiring at my school? And I am a grad student, and I am like 'I don't know'. But then you look, you know you look at the posting, and oh they are looking for two professors from my department and no wonder people want to know information. And then you start realizing, oh this is what I will be doing in a couple of years hopefully like that. And it is like vultures, not in a bad way, but you know people just hurtling around trying to find out the scoop of the institution and do you recommend that institution. Should I apply? What should I know? What are they looking for? (Doctoral student, Institution 2)

Despite the general positive perception of the benefit of networking for career advancement, a student noted:

Without articles networking doesn't work, I mean networking doesn't help you to find a job after graduation. You have to be good at, very good in your research area, and you have to publish articles. Networking is a kind of...facilitator but it is not the only reason that you get hired. (Doctoral student, Institution 4)

Hence, the findings suggest that doctoral students seem to have extrinsic motivation for conference networking, and a few students shared success stories about developing fruitful connections through conference networking. However, it seemed apparent that their main motivation for conference networking is directly linked to their researcher development. Importantly, the participants seemed to connect the learning aspect of their researcher development and their future career aspirations, as the quote below indicates:

[Conferences are] sort of mandatory. There are requirements to earning the degree, such as presenting or poster presentations at conferences, but this is tailored to each student based on where they are likely to be working upon graduation. For example, if you are working toward a research-intensive university, you will be required to do more presentations than someone working toward a teaching college -- who will be required to do more TA'ing [teaching assistant] instead. (Doctoral student, Institution 2)

Interestingly, these results did not significantly differ across the four institutions, indicating that they remain consistent across contexts. This means that the highest ranked motivations for attending conferences show that students view conferences as important learning sites. Their views on this learning process were probed in the focus group interviews and are discussed below.

IN-DEPTH FOCUS: CONFERENCES AS LEARNING SITES

Participant's views about the extent to which conferences provide them with opportunities for learning are presented in quotes in this section. Participants often spoke of the learning process occurring through observing others and dialogue. For example, students found observation to be useful in the initial doctoral period as it helped them to develop their presentation skills by directly observing others' presentations at conferences. One student noted that:

I could imagine a really cool scenario where as a PhD student you came in, and even within your first six months if there was funding available, that you could attend a conference ...you see some other people presenting for the first time, you become accustomed to the conference, how they function, and all of that. And it could be quite a good formative process so that in six months' time when you hit confirmation and you do present for the first time it's not all totally new. (Doctoral student, Institution 3)

For others, the observation process enabled them to generate ideas. This is illustrated in the excerpt below:

I found it really helpful as just a thought generating exercise. Like I remember last year [at a conference], just walking around and feeling like I was getting a sense of what people were talking about and thinking about and that sort of help me form my next steps. (Doctoral student, Institution 2)

Furthermore, some doctoral students were interested in different disciplinary areas. In such cases, it was not surprising that the students attended conferences in niche fields to learn more about current developments in the field. The excerpt below presents the view of one student.

In my experience, I come from neural psychology and I am in training to learning sciences, so I know I am going to get more information from learning sciences, but I don't get that much update from neural psychology or anything. So, I would go to a conference in neural psychology but to know what is happening as well in this moment. (Doctoral student, Institution 1)

In addition to the opportunities that conferences offered students to learn through observing how others present and accessing emerging research, the privilege of engaging with others of similar interest in an international learning space was useful for some doctoral students. For example, students could observe presentation styles, approaches towards networking, and various research methods they previously may not have been familiar with. Within this space, there were opportunities to participate in special interest groups (SIGs) with an international perspective.

I mean international conferences have the advantage that you can relate it to people from different countries and different contexts...Usually international conferences have this special interest groups. So, in my case I attended one of those meetings and I found out a lot about Australian early years, and I know that you can do it by yourself reading on your desk. But it was very interesting to actually talk and discuss face to face with all of those researchers. (Doctoral student, Institution 4)

However, as one interviewee pointed out, input from outside the field could be an important learning experience.

I do like having people that are from outside of the area though as well. Because occasionally some parts of my work have been improved quite a lot by someone just saying, oh, they clearly didn't know what exactly I was researching, but they kind of knew the vague area. (Doctoral student, Institution 4)

This excerpt demonstrates the mediating role of peers or experts through feedback as students share their work. The doctoral process can be a very lonely one and even as students appreciated working alone, they found the opportunity to participate in conferences invaluable for their personal growth and well-being. A student noted that:

I have recognized sort of here at [Institution 2] I am actually relatively isolated in terms of people that do work that I am interested in...And it has been really important in being able to see like the outside community and understanding sort of what is out there. Who is out there. And now as I sort of transition to starting to do my own work, moving towards the presentation side of it, I think both of those are separate but equally – maybe not equal – but similarly important. (Doctoral student, Institution 2)

To this end, the interviewees emphasized the importance of attending conference as a place where they sharpen their understanding which ultimately impacts their research and their progress.

One situation I think that just keeps coming up for me is...when you have to explain what you do...you just continuously just like narrow down, like get clear about what you are doing and only when you have to explain it to somebody else in 30 seconds, can you really work on like...I mean I do just for that purpose, trying to work on my research, and then you start talking to people and explaining it to them, as a way to sharpen what you are trying to do here. It has tangible...impact on your research. (Doctoral student, Institution 2)

The above quote underscores the important role that participation and interacting with others at conferences have on doctoral students' learning. Our findings revealed that doctoral students also consider conferences as sites for other activities beyond learning related to their current study, such as, having opportunities to be visible to others in their field of research to develop an academic profile. The next section discusses the extent to which doctoral students are supported to participate at conferences.

HOW CONFERENCE ATTENDANCE WAS EMBEDDED WITHIN THE PROGRAM

Our study shows that across all four universities, conferences are not mandatory for majority (93%) of doctoral students. Yet, the students reiterated conferences were valued as important for their academic development. In view of this finding, this section explores how conferences are embedded within doctoral programs. It does this through analyses of how normative expectations as well as support, financial and non-financial, for conference participation enable students to enjoy learning associated with conference participation discussed earlier.

Relationship between normative expectations, support and conference participation

Some students who participated in this study reported expectations concerning conference participation in their institutions. Two examples from the data are used to illustrate this finding. One student noted that "there is strong normative pressure to attend these or have on your CV that you have presented at these conferences...but, again, nothing is mandatory" (Doctoral student, Institution 2). Similarly, in Institution 3, attending conferences was also not mandatory, yet a respondent said that "it is expected that PhD students will contribute to the academic discourse through conference presentations, workshops, as well as submitting journal articles for publication" (Doctoral student, Institution 3).

These findings signify that even though conference participation is not mandatory for many students in doctorate in education programs, there are norms, indicating the importance of conferences within doctoral programs. This could partly explain the high number of students who participated in domestic conferences compared with those who did not. While this is positive, we found differences in the kinds of support offered for students across all four institutions. For instance, some doctoral students (7%) from Institutions 1, 2 and 4 stated that attending conferences was mandatory and cited one key reason namely, requirement from funders as part of the degree completion. This was not the case for students in Institution 3. Those who reported it being mandatory mentioned they had external financial support to participate in conferences, whereas many others did not have financial support amidst the strong normative expectation. The differences in financial support between those with institutional funding and were thus obliged to attend conferences and those where there were only normative expectations are unsettling. Financial support makes conference participation feasible for all students. Absence of financial support is significant, particularly for those who are self or partially funded. Most doctoral students reported financial constraint was the primary barrier for their participation in conferences, especially international conferences.

Funding was obtained from internal (within Schools of Education) and external sources. Aside external sources of funding for students to attend conferences, there were differences in support from Schools of Education, as discussed earlier (see section on *Context of the Study*).

These funds, however, are available only if the students request it – to attend one or more conferences. In addition, as earlier mentioned, students in Year 1 were not given funds to attend conferences as institutional policy in two out of the four institutions researched. Furthermore, at Institution 1, doctoral students beyond their third year were excluded from accessing the funds they were entitled to in their second and third year of study. This was not the case in the other three institutions. It is not known the extent of such practices within doctoral programs within disciplines and institutions. It is also not clear whether the funds are allocated to other aspects of doctoral training if not utilized by doctoral students for conference attendance.

We also discovered differences in other forms of support, mainly supervisory, for students to participate in conferences besides the financial. Two examples from the data are used to illustrate this. A student stated that:

I took part in an academic conference (gave a presentation) after my master's degree and enjoyed and found the experience valuable. I was encouraged to take part by my former tutor. My PhD supervisor has never mentioned or encouraged me to do the same and I lack the courage to put myself forward or go to other conferences (Doctoral student, Institution 1)

Similarly, another student mentioned that:

It has taken me 3 years to feel comfortable attending conferences and to have built up networks whom I can connect with there. I see the value in conferences, but I think supervisors should be more proactive in supporting students in their first conference by introducing them to people, recommending SIGs to join, attending their paper presentations and providing feedback, giving feedback on their abstract submissions and first conference paper text. Conferences can be daunting, but supervisors could do a lot to help students through that first nerve-wracking experience of face-to-face peer review. (Doctoral student, Institution 4)

Yet while some students did not feel they were supported by academics (i.e., supervisors) to attend conferences, other felt supported. One noted that "... even though you may not ask, she [supervisor] may suggest to look at your presentations before you go to conferences. So, she is giving feedback on that as well" (Institution 4 student). Another mentioned that:

Yeah, on support of supervisors, when I actually went to a conference, my supervisor was at that conference, and I suppose she has supported me in that she...went around and introduced me to a lot of people at the conference that she knew. (Institution 4)

Many factors are responsible for the different kinds of support that students receive across institutions (e.g., type of degree, discipline, program design). However, we argue that it will be important to have some form of transparency in the support provided for students – perhaps in the form of reporting the support provided or available to doctoral students. When doctoral students feel supported, their conference experiences are enhanced. This was confirmed in Kuzhabekova and Temerbayeva's (2018) study on the role of conferences in doctoral students' socialization.

Achieving a doctorate is the expected culmination of doctoral training and contribution to knowledge. However, the doctorate is not an end in itself. As part of the process of earning the doctorate, the findings from our research suggest that non-traditional sites such as conferences are valued learning sites to prepare doctoral graduates to work, teach, research, network, and collaborate in an international higher education environment. This means that support for attending (and presenting) at national and international conferences or should be embedded explicitly as a part of preparing students in a globalized 21st century in which they are expected to work – collaboratively in an international context.

LIMITATIONS

Our study included four institutions in three regions (the UK, USA, and Australia) and sampled PhD students studying in a School of Education. As such, our findings may not be generalizable across other student cohorts (e.g., Bachelors, Masters, or disciplinary differences, for example, science) or in other world regions. Subsequent studies should continue to build off our findings here to further explore how findings may differ in varying contexts.

In addition, our research focused on doctoral students' perspectives. This means that we did not include supervisors' perspectives in this study. Future research should include the voices of more stakeholders in doctoral training, especially supervisors who mediate between doctoral students and institutional policies.

CONCLUSION

This study contributes to the scant literature on doctoral students' learning at conferences (e.g., Chapman et al., 2009; Ghosh and Githen, 2009). Using data from four institutions in three global regions, our study makes a unique contribution to the literature by identifying the trends in doctoral students' participation and motivations for participating in national and international conferences. The results show that across all the four universities, students' conference participation was high in the first two years of their doctoral study. Participation then declined in the last three years due to limited available conference funding for doctoral students. Our findings indicate that doctoral students in their first year attended more domestic conferences than international conferences. Doctoral students used domestic conference to familiarize themselves with the conference environment and prepare for larger international conferences. The cost of attending international conferences meant that doctoral students were able to participate in them in the latter stages of their study where they could anticipate larger benefits from them.

Our second research question investigated the motivations for doctoral students' participation in conferences and found that most students attended conferences to network with academics, gain ideas for new areas of research, and seek new academic research collaborations. Central to these top three rationales was the opportunity to learn or desire to learn at conferences. Our findings showed that conferences are important learning sites outside the structured doctoral program and provide an environment for students' learning and academic development. This finding concurs with Hopwood's (2010) and Barnacle and Mewburn's (2010) findings about the importance of non-formal learning spaces. Conferences offered students the opportunity to learn through sharing their research, getting feedback from academics, and networking.

It was realized that conferences were mandatory for some students (7%), as a requirement from funders (who provide funds to attend conferences). However, conferences were not compulsory for most students. Interestingly, as already mentioned, some funding was available at institutions, but for all the students, these funds do not cover the high cost associated with conference attendance, especially international conferences. It is therefore not surprising that fewer students attended international conferences. Yet, there was a strong normative expectation for doctoral students to participate in conferences. Considering this and the importance that students attributed to conferences, we argued that it is necessary for institutions to provide students with the support needed to attend conferences. This support should not be limited to funding but also supervisory support in the form of recommending conferences to students, reviewing their abstracts and posters, and helping them to establish networks at conferences. In fact, in our study some of our participants mentioned receiving this kind of support, however, this support was reported unevenly across universities. These opportunities enable students to take advantage of the benefits that is associated with participating in conferences.

In relation to our finding that doctoral students attend conferences in order to network with academics, we perceive it would be useful if future research investigate the ways in which students are supported to network either at conferences or other sites. While not within the scope of this paper, future research could further explore the role of networking in regard to academic career outcomes and industry linkages, both of which might be supported through networking experiences. We end of our paper with a quote from one of our participants from Institution 1, who notes:

I think from a personal point of view, things that could be helpful would be to also learn how to network. Because you could be very good at talking to people, but sometimes

you don't know if your networks are right or not. When you are going into academia learning how to network would be pretty helpful. Like I have never seen anyone teach it. It is something you learn by doing.

ACKNOWLEDGEMENTS

Thanks to the reviewers for their encouraging comments. Thanks also to our project supervisors at all participating institutions, Rowena Arshad, Simon McGrath, Jennifer Tatebe, David Moss and Marian Mahat, who have all commented on drafts of this article. This paper emanated from a Graduate Collaborative Research Award project funded by Universitas21 in 2018.

REFERENCES

- Andersen, M., & Wahlgren, B. (2015). Conference evaluation focusing on learning and transfer. *Journal of Multi-disciplinary Evaluation*, 11(25), 34-50.
- Barnacle, R., & Mewburn, I. (2010). Learning networks and the journey of "becoming doctor." *Studies in Higher Education*, 35(4), 433-444. <https://doi.org/10.1080/03075070903131214>
- Blaxter, L., Hughes, C., & Tight, M. (1998). Writing on academic careers. *Studies in Higher Education*, 23(3), 281-295. <https://doi.org/10.1080/03075079812331380256>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Burford, J., Henderson, E. F., & Pausé, C. (2018). Enlarging conference learning: At the crossroads of fat studies and conference pedagogies. *Fat Studies*, 7(1), 69-80. <https://doi.org/10.1080/21604851.2017.1360666>
- Carroll, J. K., Albada, A., Farahani, M., Lithner, M., Neumann, M., Harbinder, S., & Shepherd, H. (2010). Enhancing international collaboration among early career researchers. *Patient Education and Counselling*, 80(3), 417-420. <https://doi.org/10.1016/j.pec.2010.06.020>
- Chapman, D. D., Wiessner, C. A., Morton, J., Fire, N., Jones, L. S., & Majekodunmi, D. (2009). Crossing scholarly divides: Barriers and bridges for doctoral students attending scholarly conferences. *New Horizons in Adult Education and Human Resource Development*, 23(1), 6-24. <https://doi.org/10.1002/nha3.10325>
- Ghosh, R. & Githens, R. P. (2009). Application of social network theory: Doctoral students' experiences in conferences. *New Horizons in Adult Education and Human Resource Development*, 23(1), 25-28. <https://doi.org/10.1002/nha3.10326>
- Goel, R. K., & Grimpe, C. (2013). Active versus passive academic networking: Evidence from micro-level data. *The Journal of Technology Transfer*, 38(2), 116-134. <https://doi.org/10.1007/s10961-011-9236-5>
- Haley, K. J., Wiessner, C. A., & Robinson, E. E. (2009). Encountering new information and perspectives: Constructing knowledge in conference contexts. *The Journal of Continuing Higher Education*, 57(2), 72-82. <https://doi.org/10.1080/07377360902964384>
- Hatcher, T., Aalsburg Wiessner, C., Storberg-Walker, J., & Chapman, D. (2006). How a research conference created new learning: A case study. *Journal of European Industrial Training*, 30(4), 256-271. <https://doi.org/10.1108/03090590610673632>
- Henderson, E. F. (2015). Academic conferences: Representative and resistant sites for higher education research. *Higher Education Research & Development*, 34(5), 914-925. <https://doi.org/10.1080/07294360.2015.1011093>
- Higher Education Funding Council for England (HEFCE). (2010). *Trends in young participation in higher education: Core results for England*. Bristol, England: Higher Education Funding Council for England.
- Hopwood, N. (2010). Doctoral students as journal editors: Non-formal learning through academic work. *Higher Education Research & Development*, 29(3), 319-331. <https://doi.org/10.1080/07294360903532032>
- Hugo, G. (2005a). Demographic trends in Australia's academic workforce. *Journal of Higher Education Policy and Management*, 27(3), 327-343. <https://doi.org/10.1080/13600800500283627>

- Hugo, G. (2005b). Some emerging demographic issues on Australia's teaching academic workforce. *Higher Education Policy*, 18(3), 207-229. <https://doi.org/10.1057/palgrave.hep.8300084>
- Ivankova, N. V., Creswell J. W., & Stick, S. L. (2006). Using mixed-methods sequential explanatory design: From theory to practice. *Field Methods*, 18(1), 3-20. <https://doi.org/10.1177/1525822x05282260>
- Karpen, S. C., & Hagemeyer, N. E. (2017). Assessing faculty and student interpretations of AACCP survey items with cognitive interviewing. *American Journal of Pharmaceutical Education*, 81(5), 88.
- Kordts-Freudinger, R., Al-Kabbani, D., & Schaper, N. (2017). Learning and interaction at a conference. *New Horizons in Adult Education and Human Resource Development*, 29(1), 29-38. <https://doi.org/10.1002/nha3.20169>
- Kuzhabekova, K., & Temerbayeva A. (2018). The role of conferences in doctoral student socialization. *Studies in Graduate and Postdoctoral Education*, 9(2), 181-196. <https://doi.org/10.1108/sgpe-d-18-00012>
- McAlpine, L. (2012). Identity-trajectories: Doctoral journeys from past to present to future. *Australian Universities Review*, 54(1), 38-46.
- National Science Foundation. (2017). *2015 Doctorate recipients from U.S. universities*. National Center for Science and Engineering Statistics Directorate for Social, Behavioral and Economic Sciences. Retrieved from: <https://www.nsf.gov/statistics/2017/nsf17306/static/report/nsf17306.pdf>
- Nerad, M. (2007). Doctoral education in the USA. In S. Powell & H. Green (Eds.), *The doctorate worldwide* (pp. 133-140). Berkshire, England: Open University Press.
- Powell, S., & Green, H. (2007). *The doctorate worldwide*. Berkshire, England: Open University Press.
- Quality Assurance Agency for Higher Education (QAA). (2015). *Characteristics statement: Doctoral degree*. Gloucester, England: Quality Assurance Agency for Higher Education. Retrieved from https://www.qaa.ac.uk/docs/qaa/quality-code/doctoral-degree-characteristics-15.pdf?sfvrsn=50aef981_10
- Slight, C. (2017). *Postgraduate research experience survey report 2017: Experiences and personal outlook of postgraduate researchers*. York, United Kingdom: Higher Education Academy.
- Wakefield, K., & Dismore, H. (2015). The role of transnational networking for higher education academics. *Higher Education Research & Development*, 34(6), 1281-1296. <https://doi.org/10.1080/07294360.2015.1024630>
- Walker, P. (2015). The globalisation of higher education and the sojourner academic: Insights into challenges experienced by newly appointed international academic staff in a UK university. *Journal of Research in International Education*, 14(1), 61-74. <https://doi.org/10.1177/1475240915571032>
- Wenger, E. (2000). Communities of practice and social learning systems. *Organization*, 7(2), 225-246.
- Willis, I., & Strivens, J. (2015). Academic developers and international collaborations: The importance of personal abilities and aptitudes. *International Journal for Academic Development*, 20(4), 333-344. <https://doi.org/10.1080/1360144x.2015.1083434>

BIOGRAPHIES



Omolabake Fakunle recently completed her doctorate at the School of Education, University of Edinburgh. Her research areas include the internationalisation of higher education, student experience, and graduate employability. Omolabake won the 2018 Estelle Brisard Memorial Prize awarded by the Scottish Educational Research Association for best research paper written by an early career researcher based in Scotland.



Mollie Dollinger is an Associate Lecturer at La Trobe University in Student Success and Partnership. Her research areas include student-staff co-creation, doctoral education, learning analytics, and work-integrated learning.



Joyceline Alla-Mensah is a doctoral student at University of Nottingham, School of Education. Her research interests lie in the area of Technical Vocational Education and Training (TVET), education and international development.



Blair Izard is a doctoral candidate in the Neag School of Education at the University of Connecticut. Her research interests include education abroad and the preparation of preservice mathematics teachers.